Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1–7. (Canceled)

8. (Currently Amended) A method for encoding moving pictures data from a sequence of moving pictures in which each picture in the sequence is represented by a plurality of data blocks corresponding to non-overlapping areas of the picture, the method comprising:

selecting a group of related data blocks from the plurality of data blocks of a picture;

for each data block in the selected group, obtaining a corresponding block motion vector from a previously processed picture in the moving pictures sequence;

determining a plurality of global motion vectors for the selected group, each of the global motion vectors being formed from a plurality of the corresponding block motion vectors;

analyzing the global motion vectors and determining a metric representing a distribution pattern thereof;

selecting a motion estimator scheme on the basis of the distribution pattern metric, the motion estimator scheme being selected from amongst a plurality of motion estimator schemes each having a different combination of block-matching search methods and numbers of global motion vectors;

performing data block-matching with a reference picture using the selected motion estimator scheme to generate a block motion vector; and

encoding the picture data including the block motion vectors, wherein the block-matching search methods include one or more of exhaustive search methods, logarithmic search methods, hierarchical search methods, and multi-step search methods.

9. (Previously Presented) A method as claimed in claim 8 including a step of determining, at the end of processing of a particular picture, a maximum search range using all of the global motion vectors determined for the picture, and selecting a variable length coding scheme in accordance with the maximum search range for encoding the block motion vectors for the picture.

10. (Canceled)

11. (Currently Amended) A moving pictures encoder for encoding a sequence of pictures each comprising a plurality of data blocks, including an adaptive data block matching apparatus comprising:

a global motion estimator coupled to receive block motion vectors for data blocks of a previously processed picture with respect to a reference picture for generating a plurality of global motion vectors for the picture, each global motion vector being generated from a plurality of block motion vectors from a respective group of related blocks in the picture;

a motion characteristics analyzer coupled to receive the global motion vectors from the global motion estimator for analyzing the global motion vectors to determine a metric representing a distribution pattern thereof;

a selector coupled to receive the distribution pattern metric from the motion characteristics analyzer for selecting a motion estimation scheme from amongst a plurality of motion estimation schemes, for data block matching of at least one subsequent picture in the sequence, each of the plurality of motion estimation schemes having a different combination of data block matching techniques and numbers of global motion vectors; and

a plurality of motion estimators controlled by said selector and coupled to receive said global motion vectors for performing data block matching of at least one subsequent picture in the sequence using the selected motion estimation scheme, said global motion vectors and preselected search window characteristics, wherein the plurality of motion estimators includes a first motion estimator configured to use one of the received global motion vectors and employ an exhaustive search block-matching technique, a second motion estimator configured to use two of

the received global motion vectors and employ an exhaustive search block-matching technique, a third motion estimator configured to use one of the received global motion vectors and employ a hierarchical search block-matching technique, and a fourth motion estimator configured to use two of the received global motion vectors and employ a hierarchical search block-matching technique.

12. (Original) A moving pictures encoder as claimed in claim 11, wherein the global motion estimator includes means for determining a maximum search range on the basis of the global motion vectors.

13. (Original) A moving pictures encoder as claimed in claim 12, including a statistical coder employing variable length codes, and wherein the statistical coder is coupled to the global motion estimator to receive said maximum search range, and wherein the statistical coder selects a variable length coding scheme for block motion vectors of a picture on the basis of said maximum search range.

14. (Previously Presented) A moving pictures encoder as claimed in claim 11, wherein the global motion estimator includes:

means for classifying the block motion vectors from a selected group into a plurality of sub-groups;

means for determining a primary global vector from all the block motion vectors from the selected group; and

means for determining a plurality of secondary global motion vectors corresponding to the respective sub-groups from the block motion vectors classified in the respective sub-groups; and

wherein the selector includes:

means for selecting the primary and/or at least one of the secondary global motion vectors for use in defining one or more search windows for each block in the selected group to enable block matching with a reference picture.

15. (Previously Presented) A moving pictures encoder as claimed in claim 11, wherein at least one of the motion estimators includes:

means for determining a match between each block in the selected group and a matching-block in the one or more search windows for that block in the reference picture;

means for determining a computed motion vector between each block in the selected group and its matching block; and

means for generating a computed motion vector for each block in the picture and determining a maximum offset vector from the largest of the computed motion vectors, and using the maximum offset vector to select a variable length coding level for the computed motion vectors for the picture.

16. (Previously Presented) A method as claimed in claim 8, wherein the determining step includes classifying the block motion vectors from the selected group into a plurality of sub-groups; determining a primary global vector corresponding to all the block motion vectors from the selected group; and determining a plurality of secondary global motion vectors corresponding to the respective sub-groups from the block motion vectors classified in the respective sub-groups; wherein the selecting step includes:

selecting the primary and/or at least one of the secondary global motion vectors for use in defining one or more search windows for each block in the selected group to enable block matching with a reference picture.

17. (Previously Presented) A method as claimed in claim 8, further comprising:

determining a match between each block in the selected group and a matching-block in the one or more search windows for that block in the reference picture;

determining a computed motion vector between each block in the selected group and its matching block;

generating a computed motion vector for each block in the picture;

determining a maximum offset vector from the largest of the computed motion vectors; and

using the maximum offset vector to select a variable length coding level for the computed motion vectors for the picture.

18–26. (Canceled)